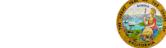
## **DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES Office of Structural Materials Quality Assurance and Source Inspection

Bay Area Branch 690 Walnut Ave.St. 150 Vallejo, CA 94592-1133 (707) 649-5453 (707) 649-5493



Contract #: 04-0120F4

Cty: SF/ALA Rte: 80 PM: 13.2/13.9

File #: 1.28

## WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter **Report No:** WIR-021021 Address: 333 Burma Road **Date Inspected:** 23-Feb-2011

City: Oakland, CA 94607

**OSM Arrival Time:** 700 **Project Name:** SAS Superstructure Prime Contractor: American Bridge/Fluor Enterprises, a JV **OSM Departure Time:** 1630 Contractor: American Bridge/Fluor Enterprises, a JV **Location:** Job Site

**CWI Name:** John Pagliero and William Sherw WI Present: Yes No

**Inspected CWI report:** Yes N/A **Rod Oven in Use:** Yes No No N/A N/A **Electrode to specification:** Yes No Weld Procedures Followed: Yes No N/A N/A **Qualified Welders:** Yes No **Verified Joint Fit-up:** Yes No N/A N/A Yes N/A **Approved Drawings:** Yes No **Approved WPS:** No

**Delayed / Cancelled:** Yes No N/A

34-0006 **Bridge No: Component:** Orthotropic Box Girder

#### **Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 9E/10E side plate 'E2' (2638mm to 5278mm ) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove (splice) welding fill pass on the splice butt joint after fixing the Bug-o remote controller. The welder was observed perform automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042B-1. The joint being welded has a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at the opposite side of the plate prior/during welding. During welding, ABF Quality Control (QC) Steve Jensen was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass welding was still continuing and should remain tomorrow.

QA randomly observed ABF/JV qualified welders Rory Hogan continuing to perform CJP groove (splice) back welding cover pass on Orthotropic Box Girder (OBG) 8W/9W bottom plate 'D1' outside. The welder was observed back welding in the 4G (overhead) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3110-4. The welder was using a track mounted welder holder assembly that was remotely controlled. The joint being welded has the backing bar gouged using the Esab Plasma Arc machine

# WELDING INSPECTION REPORT

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and was ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System located on top of the plate prior welding and by moving the blanket to the side of the weld being welded during welding. The vicinity was also properly protected from wind and other climatic conditions. ABF Quality Control (QC) Fred Von Hoff was noted monitoring the welding parameters of the welder. During the shift, cover pass welding was completed and the welder has started moving to side plate 'E' outside of the same OBG.

At OBG 8W-PP61.5-W5-SW deck access hole to top deck plate outside/inside, QA randomly observed ABF/JV qualified welder Jorge Lopez perform CJP repair welding. The welder was noted welding in 1G/4G (flat/overhead) position utilizing SMAW with 1/8" diameter E7018H4R electrode implementing new Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1001 Repair. The second time welding repairs were excavated to a boat shape profile and were tested with Magnetic Particle Testing (MT) prior welding. During welding, ABF QC William Sherwood was noted monitoring the welder and his welding parameters. QA noted parameter during welding was 135 amperes which appears in compliance to the WPS. At the end of the shift, welding repair at this location was completed. The locations of the repairs were noted below;

Location Y-dimension Length Width Depth Remarks

1. 3205mm 100mm 25mm 14mm Outside - Completed 2. 2590mm 90mm 10mm 5mm Inside – Completed

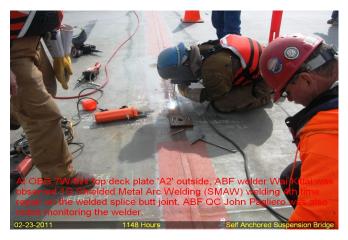
At OBG 7W/8W top deck plate 'A2' outside, QA randomly observed ABF/JV qualified welder Wai Kitlai perform CJP repair welding per Request Weld Repair (RWR) number 201102-002. The welder was noted welding in 1G (flat) position utilizing SMAW with 3/16" diameter E7018H4R electrode implementing new Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1003 Repair. The new repair procedure includes putting in place a copper backing alongside the typical steel backing bar when the repair excavation is expected to occur at the edge of the steel backing. The fourth time welding repair located at Y=4880mm and having dimension profile of 360mm long x 20mm wide x 14mm deep was excavated to a boat shape profile and was tested with Magnetic Particle Testing (MT) prior welding. During welding, ABF QC John Pagliero was noted monitoring the welder and his welding parameters. QA noted parameter during welding was 260 amperes which appears in compliance to the WPS. After welding two passes on the repair, the welder went for lunch and upon his return, ABF QC John Pagliero has noted linear indication on the weld. ABF superintendent Dan Ieraci was present at the site and instructed the welder to grind off the linear indication. He also called the ABF QC Manager Jim Bowers who apparently told Dan Ieraci to remove the two passes that the welder just welded and start all over again. The welder had used a 9" grinder and die grinder to remove the two passes and after the removal, ABF QC John Pagliero performed the Magnetic Particle Testing (MT). Mr. Bowers also arrived at the site and observed the completion of the repair welding. The welder welded the first pass again and after cleaning, QC has performed the MT which showed no defect/indications. The welder put more passes and each pass that he welded was tested by QC with MT until the repair was filled more than 50% of the weld. At the end of the shift, the repair welding was completed.

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## **Summary of Conversations:**

No significant conversation ocurred today.

## **Comments**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo, Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer